

Attachment 4

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION VII
901 NORTH FIFTH STREET
KANSAS CITY, KANSAS 66101

08 FEB -5 AM 8:57

ENVIRONMENTAL PROTECTION
AGENCY-REGION VII
REGIONAL HEARING CLERK

IN THE MATTER OF)

THE CITY OF ROCKAWAY BEACH)
MISSOURI)

Respondent)

Proceedings under Section 309(a)(3))
of the Clean Water Act,)
33 U.S.C. § 1319(a)(3))

FINDINGS OF VIOLATION/
ORDER FOR COMPLIANCE

Docket No. CWA-07-2008-0031

I. PRELIMINARY STATEMENT

1. The following FINDINGS OF VIOLATION and ORDER FOR COMPLIANCE ("Order") are made and issued pursuant to the authority of Section 309(a)(3) of the Clean Water Act ("CWA"), 33 U.S.C. § 1319(a)(3). This authority has been delegated by the Administrator of the United States Environmental Protection Agency ("EPA") to the Regional Administrator, EPA Region VII and further delegated to the Director of the Water, Wetlands, and Pesticides Division, EPA Region VII.

2. Respondent is the City of Rockaway Beach, Missouri which owns and operates a publicly owned treatment works ("POTW"). The POTW includes a wastewater treatment facility, which serves the cities of Rockaway Beach, Merriam Woods and Bull Creek, Missouri.

II. STATUTORY AND REGULATORY FRAMEWORK

3. Section 301(a) of the CWA, 33 U.S.C. § 1311(a), prohibits the discharge of pollutants except in compliance with, *inter alia*, Section 402 of the CWA, 33 U.S.C. § 1342. Section 402 of the CWA provides that pollutants may be discharged only in accordance with the terms of a National Pollutant Discharge Elimination System ("NPDES") permit issued pursuant to that Section.

4. The CWA prohibits the discharge of "pollutants" from a "point source" into a "navigable water" of the United States, as these terms are defined by Section 502 of the CWA, 33 U.S.C. § 1362.

5. To implement Section 402 of the CWA, EPA promulgated regulations codified at 40 C.F.R. Part 122. Under 40 C.F.R. Part 122.1, a NPDES permit is required for the discharge of pollutants from any point source into waters of the United States.

6. The Missouri Department of Natural Resources ("MDNR") is the state agency with the authority to administer the federal NPDES program in Missouri pursuant to Section 402 of the CWA, 33 U.S.C. § 1342, implementing regulations, and a Memorandum of Understanding dated October 30, 1974. EPA maintains concurrent enforcement authority with authorized states such as Missouri for violations of the CWA.

III. FINDINGS OF FACT

7. Respondent is a "person" as defined by Section 502(5) of the CWA, 33 U.S.C. § 1362(5).

8. Respondent owns and operates a publicly owned treatment works ("POTW"), as defined by 40 C.F.R. § 403.3(q), which receives and treats wastewater from various domestic and industrial sources.

9. The POTW is a "point source" as defined by CWA Section 502(14), 33 U.S.C. § 1362(14).

10. The POTW causes the "discharge of pollutants" as defined by CWA Section 502(12), 33 U.S.C. § 1362(12).

11. The POTW discharges pollutants into Lake Taneycomo. Lake Taneycomo is a "navigable water" as defined by CWA Section 502(7), 33 U.S.C. § 1362(7).

12. Respondent's discharge of pollutants from its POTW requires a permit issued pursuant to Section 402 of the CWA, 33 U.S.C. § 1342.

13. MDNR granted NPDES Permit No. MO-0108162 ("Permit") to Respondent, effective August, 30, 2006 through August 29, 2011, for discharges from its POTW into Lake Taneycomo.

14. On September 10-13, 2007, EPA performed an inspection of the Rockaway Beach Wastewater Treatment Facility at 1000 Boys Camp Road in Rockaway Beach, Taney County, Missouri, under the authority of Section 308(a) of the CWA, 33 U.S.C. § 1318(a). The inspection included a visual inspection of all plant unit processes in the POTW and the collection of 24-hour composite samples each day from the wastewater treatment plant effluent.

IV. FINDINGS OF VIOLATION

15. The facts stated in paragraphs 7 through 14 above are herein incorporated.

Count 1 – Failure to Sample

16. Part A, Effluent Limitations and Monitoring Requirements of the Permit, sets limits for Ammonia, Biochemical Oxygen Demand (“BOD”), Total Suspended Solids (“TSS”), pH, Fecal Coliform, Total Phosphorus as P and Oil and Grease. Part A of the Permit also requires monthly sampling and analysis to verify compliance with the effluent limitations.

17. Respondent failed to collect samples and falsified the Discharge Monitoring Reports (“DMRs”) to indicate that samples had been collected and analyzed as required by the Permit. This failure to sample is a violation of the Permit and therefore a violation of Section 402 of the CWA.

Count 2 - Improper Sampling Procedures

18. . The Standard Conditions of the Permit, Part 1, Section A.1.a., requires that the samples and measurements required by the Permit are to be representative of the nature and volume of the monitored discharge and are to be taken at the outfall, and unless specified, before the effluent joins or is diluted by any other body of water or substance. In addition, Part A of the Permit requires that 24 hour composite samples be collected for BOD, TSS and Whole Effluent Toxicity (“WET”) tests. During the inspection, Respondent stated that it collects grab samples, rather than composite samples. Grab samples are not representative. Such sampling is an improper procedure and is a violation of the Permit.

19. Federal regulations at 40 C.F.R. Part 136.3, set forth the test requirements that must be used to determine total ammonia as N and total phosphorus as P. Both test procedures require digestion as an initial step. Respondent failed to perform this step in the sampling process. Failure to perform this step is improper sampling procedure and a violation of the Permit.

20. Missouri regulations at 10 C.S.R. Part 20, Chapter 9, which are adopted by reference into the Permit, require process test controls to be implemented at a designated frequency. At the time of the inspection, these tests were not being performed for the POTW at the required frequency. Failure to perform these tests in compliance with 10 C.S.R. Part 20, Chapter 9, is a violation of the Permit and therefore a violation of Section 402 of the CWA.

Count 3 – Failure to Retain Records

21. The Standard Conditions of the Permit, Part I, Section A. 7, require that Respondent retain records of all monitoring information, including copies of all calibration and maintenance records and all original strip chart recording for continuous monitoring instrumentation, copies of all reports required by Permit, and records of all data used to complete the application for the Permit, for a period of at least three (3) years from the date of the sample, measurement, report or application. Respondent failed to maintain any of the aforementioned records, in violation of the Permit.

Count 4 – Facilities Operation

22. The Standard Conditions of the Permit, Part I, Section B.3, require Respondent to operate and maintain the POTW to comply with the Missouri Clean Water Law and applicable permit conditions. Respondent violated its Permit and therefore violated Section 402 of the CWA by the following omissions.

(a) Respondent failed to maintain the flow measuring equipment. Specifically,

(i) The inflow and effluent flow monitoring devices had not been calibrated.

(ii) The head detector for the combined Merriam Woods - Bull Creek flow was not mounted at the proper location of the converging section of the Parshall flume.

(ii) The flow meter for Rockaway Beach was not accurately measuring flow.

(b) Respondent failed to maintain the air blower system to provide adequate aeration in the oxidation ditch for effective treatment. At the time of the inspection, the dissolved oxygen measured 1.5 micrograms per liter (mg/l); the appropriate level for effective treatment is no greater than 0.4 mg/l.

(c) Respondent failed to maintain the east aeration tank/clarifier unit in an operable condition, which is necessary if it is to perform its function of serving as a standby unit to the one in service.

(d) Respondent failed to maintain the UV system in a functioning mode. The UV system was not delivering adequate light intensity to the wastewater effluent for effective reduction of fecal coliform.

(e) Respondent failed to protect all the mechanical equipment with drive belt covers.

(f) Respondent failed to maintain the sand filter backwash pumps, causing a bypass as there was a direct discharge of backwash into the channel without passing through the UV light bank.

Count 5 – Failure to Report

23. Special Conditions to the Permit, Section C.8., require Respondent to submit a report semi-annually in April and October with the Discharge Monitoring Reports (“DMRs”) which address measures taken to locate and eliminate sources of inflow and infiltration into Respondent’s collection system. Respondent failed to submit these reports with the April and October DMRs. This failure is a violation of the Permit.

24. Standard Conditions to the Permit, Part III, Section K.2., require an annual report to be submitted to MDNR by January 28th of each year, reporting sludge handling and application activities of the previous calendar year. Respondent failed to submit the annual sludge report for 2006. This failure is a violation of the Permit.

25. Standard Conditions to the Permit, Part I., Section A.5., require that whenever a bypass occurs, the POTW must report such incident to MDNR within twenty-four hours and submit a written follow-up within five days. During the inspection, EPA observed bypass: backwash (unable to flow through plugged sand filters) flowing directly into the discharge channel without passing through the UV light. Respondent failed to make the oral report and to submit the written report after a bypass occurred. This failure is a violation of the Permit.

Count 6 – Wrongful Sludge Application

26. Standard Conditions to the Permit, Part III, incorporate the federal sludge disposal requirements set forth in 40 C.F.R. Part 503 which establishes pollutant limits, management practices, and operational standards for disposal of sewage sludge to the land. During the inspection, Respondent provided EPA the pathogen analysis it performed in 2003 and 2004 to sludge that Respondent applied to agricultural land. The analyses indicated that the Class B sludge generated by the POTW had a pathogen density of 2,780,000 Most Probable Number/Colony Forming Units (MPN/CFU) in 2003 and 4,060,000 MPN/CFU in 2004. The regulations at 40 C.F.R. § 503.32 (b)(2)(ii) set the pathogen limit applicable to the sludge from the POTW at either 2,000,000 MPN per gram of total solids or 2,000,000 CFUs per gram of total solids. The regulations at 40 C.F.R. § 503.15(a) state that the Class A pathogen requirements in Section 503.32(a) or the Class B pathogen requirements and site restrictions in Section 503.32(b) shall be met when bulk sewage sludge is applied to agricultural land, forest, a public contact site, or a reclamation site. The pathogen analyses of the sludge performed in

2003 and 2004 indicated the pathogen limit in 40 C.F.R. § 503.32(b)(2)(ii) was exceeded. Land applying sludge with these exceedances was a violation of the Permit.

Count 7 – Inadequate Outfall Marking

27. Special Conditions to the Permit, Part C.2, require that all outfalls be clearly marked in the field. At the time of the inspection, the marking for outfall 001 was painted on the manhole lid of the last manhole before the outfall enters Lake Taneycomo and not clearly marked. Failure to clearly mark the outfall to alert the public to the nature of the discharge is a violation of the Permit.

Count 8 – Bypass

28. During the inspection, EPA observed that the sand filter backwash pumps had failed, resulting in backwash overflowing directly into the discharge channel without passing through the UV light bank. This is a bypass as defined by Standard Conditions of the Permit, Part 1, Section B(5). Based upon the condition of the sand filters through which flow is intended to pass in the treatment process, EPA determined that bypass was occurring and had occurred. Allowing bypass to occur is a violation of the Permit.

Effect of Violations of the Permit

29. Respondent's violations of the terms and conditions of its Permit, as described in Counts 1 through 8 (Paragraphs 16 through 28 above), are violations of Sections 301(a) and 402 of the CWA, 33 U.S.C. §§ 1311(a) and 1342, and implementing regulations.

V. ORDER FOR COMPLIANCE

30. Based on the Findings of Fact and Findings of Violation set forth above, and pursuant to Section 309(a)(3) of the CWA, 33 U.S.C. § 1319(a)(3), Respondent is hereby ORDERED to take the actions described below in paragraphs 31 through 38.

31. Within thirty (30) days of the Effective Date, as defined in Paragraph 41 herein, Respondent shall take all corrective action that is necessary to correct the deficiencies, eliminate and prevent recurrence of the violations cited in this Order and to come into compliance with all of the applicable requirements of its Permit.

32. Within sixty (60) days of the Effective Date, Respondent shall prepare and submit to EPA an Operations and Maintenance (O&M) Manual which addresses preventative maintenance and includes a schedule for maintenance.

In the Matter of Rockaway Beach, Missouri Docket No. CWA-07-2008-0031

33. Within thirty (30) days of the Effective Date, Respondent shall submit to EPA a copy of the 2007 sludge report submitted to MDNR. In addition, Respondent shall provide an accounting of all sludge wasted from the clarifiers in 2007. Thereafter, Respondent shall continue to submit this information annually to EPA through 2012.

34. On the 10th day of the month immediately following the Effective Date and on the 10th day of every 3rd month thereafter through 2012, Respondent shall submit to EPA with a copy to MDNR sampling and analysis information of the influent and effluent, bench sheets, removal efficiency calculations, and letterhead data reports from the certified laboratory performing analyses. Respondent shall submit DMRs to MDNR with a copy to EPA on the same schedule.

35. In April and October of 2008 and continuing in April and October of the next five years, Respondent shall provide EPA a copy of the semi-annual report it submits to MDNR.

36. In the event that Respondent believes complete correction of the violations cited in this Order is not possible within thirty (30) days of the Effective Date, Respondent shall, within those thirty (30) days, submit a comprehensive written plan for the elimination of the cited violations. Such plan shall describe in detail the specific corrective actions to be taken. The plan shall include a detailed schedule for the elimination of the violations within the shortest possible time, as well as measures to prevent these or similar violations from recurring.

37. All documents required to be submitted to EPA by this Order shall be transmitted by mail to:

Ms. Cynthia Sans
Water, Wetlands, and Pesticides Division
U.S. Environmental Protection Agency - Region 7
901 North Fifth Street
Kansas City, KS 66101

38. A copy of documents required to be submitted to MDNR by this Order shall be transmitted by mail to:

Mr. Kevin Mohammadi, Chief
Enforcement Section
Water Pollution Control Program
Missouri Dept. of Natural Resources
P.O. Box 176
Jefferson City, Missouri 65102

Ms. Cindy Davies, Director
Southwest Regional Office
Missouri Dept. of Natural Resources
2040 W. Woodland
Springfield, MO 65807-5912

VI. GENERAL PROVISIONS

Effect of Compliance with the Terms of this Order for Compliance

39. Compliance with the terms of this Order shall not relieve Respondent of liability for, or preclude EPA from, initiating an administrative or judicial enforcement action to recover penalties for any violations of the CWA, or to seek additional injunctive relief, pursuant to Section 309 of the CWA, 33 U.S.C. § 1319.

40. This Order does not constitute a waiver or a modification of any requirements of the CWA, 33 U.S.C. § 1251 *et seq.*, all of which remain in full force and effect. The EPA retains the right to seek any and all remedies available under Sections 309(b), (c), (d) or (g) of the Act, 33 U.S.C. § 1319(b), (c), (d) or (g), for any violation cited in this Order. Issuance of this Order shall not be deemed an election by EPA to forgo any civil or criminal action to seek penalties, fines, or other appropriate relief under the Act for any violation whatsoever.

Access and Requests for Information

41. Nothing in this Order shall limit EPA's right to obtain access to, and/or to inspect Respondent's facility, and/or to request additional information from Respondent, pursuant to the authority of Section 308 of the CWA, 33 U.S.C. § 1318 and/or any other authority.

Severability

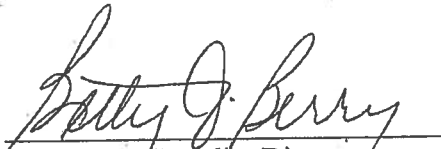
42. If any provision or authority of this Order, or the application of this Order to Respondent, is held by federal judicial authority to be invalid, the application to Respondent of the remainder of this Order shall remain in full force and effect and shall not be affected by such a holding.


Effective Date

43. The terms of this Order shall be effective and enforceable against Respondent upon the date it is signed by EPA.

In the Matter of Rockaway Beach, Missouri Docket No. CWA-07-2008-0031

Issued this 4th day of February, 2008.


William A. Spratlin, Director
Water, Wetlands and Pesticides Division
U.S. Environmental Protection Agency
Region VII
901 North Fifth Street
Kansas City, Kansas 66101


Audrey Asher
Senior Assistant Regional Counsel
U.S. Environmental Protection Agency
Region VII
901 North Fifth Street
Kansas City, Kansas 66101

In the Matter of Rockaway Beach, Missouri Docket No. CWA-07-2008-0031

CERTIFICATE OF SERVICE

I certify that on the date noted below I hand delivered the original and one true copy of this Findings of Violation/Order for Compliance to the Regional Hearing Clerk, United States Environmental Protection Agency, 901 North Fifth Street, Kansas City, Kansas 66101.

I further certify that on the date noted below I sent a copy of the foregoing Findings of Violation/Order for Compliance by first class certified mail, return receipt requested, to:

Mr. Lawrence E. Cline, Mayor
City of Rockaway Beach
P. O. Box 315
Rockaway Beach, MO 65740

Mr. Kevin Mohammadi, Chief
Enforcement Section
Water Pollution Control Program
Missouri Dept. of Natural Resources
P.O. Box 176
Jefferson City, Missouri 65102

2/5/08
Date

Audrey Ashe

Attachment 5



2627 Route 121 NW, Decatur IL 62526
800 S 6th Street, East St Louis IL 62201
643 N 20th Street, East St Louis IL 62205

3000 Ellington Road, Quincy IL 62301
800 S 6th Street, East St Louis IL 62201
2955 Chrysler Rd, Kansas City KS 66115
2214 Fares Avenue, Evansville IN 47711

126 Chouteau Avenue, St. Louis MO 63102

Phone 1-800-777-5155

www.gsrobins.com

Page 1 of 1

TRUCK RUN #: 30,279

STOP #: 2

FROM: GS Robins-Springfield
AT: Springfield, MO USA

CARRIER GSR Trk
BY

B/L DATE

08/04/2009

B/L NO.

150,237

S City of Rockaway Beach
H 2762 Hwy 176
I Rockaway Beach, MO 65740-
P USA

S City of Rockaway Beach
O 2762 Hwy 176
L PO Box 315
D Rockaway Beach, MO 65740-
T USA
O

Pynt Terms

Net 30 Days

Contact: BUCK GODLEY

Priority: 4

CUST. NO.	SALES AGENT	OPERATOR	REQ. NO.		SHIP VIA	PO NUMBER	CUST ORDER NUMBER		
3269-00	sdh	spfdops			Truck		150237		
SHIP DATE	WAREHOUSE	FREIGHT			FOB REMARK		DELIVERY DATE	DELIVERY TYPE	
08/04/2009	05	Prepaid and Allowed			Destination		08/04/2009	Regular	
QUANTITY BACK ORDERED	QUANTITY SHIPPED	PACKAGING	HM	DESCRIPTION			NET WEIGHT (LB)	GROSS WEIGHT (LB)	FRT CLASS
0	6	660.00 lb Poly Drum	X	UN 1760,Corrosive Liquid, n.o.s. CONTAINS: (Ferric Sulfate Solution), (8), PG II, Ferric Sulfate 60% Solution NSF (12% Iron) 400000181-55U					

Truck is full. Driver will return to pick up empties on this truck or customer service will contact customer to reschedule
Empties are not ready for pick up. Contact customer service to schedule a pick up.
Customer does not have empties to pick up. Customer Initials:
All products are in good shape when received and CofA's are attached, if required

Customer Name:

Driver:

Darin

Loader:

Darin

FOR CHEMICAL EMERGENCY - Spill, Leak, or Accident
CALL CHEMTREC - 800 - 424 - 9300

RECEIVED, subject to the classifications and lawfully filed tariffs in effect on the date of the issue of this Bill of Lading, the property described above in apparent good order, except as noted (contents and condition of contents of packages unknown), marked, consigned, and destined as indicated above which said carrier (the word carrier being understood throughout this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery at said destination, if on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or property over all or any portion of said route to destination and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the bill of lading terms and conditions in the governing classification on the date of shipment.

Shipper hereby certifies that he is familiar with all the bill of lading terms and conditions in the governing classification and the said terms and conditions are hereby agreed to by the shipper and accepted for himself and his assigns.

This is to certify that the above-named materials are properly classified, described, packaged, marked and labeled and are in proper condition for transportation according to the applicable regulation of the Department of Transportation.

CARRIER

Placards Supplied Yes

No

Driver Sign

FREIGHT CHARGES:

Prepaid

Collect

AGENT

PER

Pallets: HD Plastic

Std

126 Chouteau Avenue, St. Louis MO 63102
2241 East Bennett, Springfield MO 65804
www.gsrobins.com



2627 Route 121 NW, Decatur IL 62864
3000 Ellington Road, Quincy IL 62301
2955 Chrysler Rd, Kansas City KS 66115

314-621-5155 FAX 314-621-1216

Customer Number

3269-00



*Rec'd
11-1-09*



INVOICE

Date	Invoice #
06/26/2009	159070
Date Shipped	Order #
06/26/2009	147897

S City of Rockaway Beach
O PO Box 315
L Rockaway Beach , MO 65740-
D USA
T
O

S City of Rockaway Beach
H 2762 Hwy 176
I Rockaway Beach , MO 65740-
P USA
T
O

Customer PO #		FOB Remark		Freight Terms	
		Destination		Prepaid and Allowed	
Terms		Due Date	Ship Via	Sales ID	Division
Net 30 Days		07/26/2009	ADM	sdh	5
Units	Package	Product Name	Total Quantity	Unit Price	Amount
2.00	100.0 lb Drum	Calcium Hypochlorite 65% Available Chlorin 400000074-FsmDR Lot No: 08CH334D	2.0000/E	180.0000 /E	360.00
4.00	660.0 lb Poly Drum	Ferric Sulfate 60% Solution NSF (12% Iron) 400000181-55U Mfg No: CC921292 Lot No: GATX4704	2.640.0000/lb	0.2925 /lb	772.20
Packaging: 55U, Deposit: 4 container(s) at 40.00 USD per container = 160.00 USD					160.00
Container Deposit					

*42.
11-13-09
U#1851 Rfg.*

Total Amount Due: 1,292.20

Remit To:
GS Robins and Co
Dept Number 26543
PO Box 790100
St Louis MO 63179-0100

126 Chouteau Avenue, St. Louis MO 63102
 2241 East Bennett, Springfield MO 65804
 2214 Fares Avenue, Evansville IN 47711
 www.gsrobins.com



2627 Route 121 NW, Decatur IL 62864
 3000 Ellington Road, Quincy IL 62301
 2955 Chrysler Rd, Kansas City KS 66115

314-621-5155 FAX 314-621-1216

Customer Number

3269-00



Rec'd 5-26-09



INVOICE

Date	Invoice #
05/20/2009	156413
Date Shipped	Order #
05/20/2009	145175

S City of Rockaway Beach
 O PO Box 315
 L Rockaway Beach , MO 65740-
 D USA
 T
 O

S City of Rockaway Beach
 H 2762 Hwy 176
 I Rockaway Beach , MO 65740-
 P USA
 T
 O

Customer PO #		FOB Remark		Freight Terms			
		Destination		Prepaid and Allowed			
Terms		Due Date		Ship Via		Sales ID	Division
Net 30 Days		06/19/2009		GSR Trk		sdh	5
Units	Package	Product Name		Total Quantity	Unit Price	Amount	
2.00	100.0 lb Drum	Calcium Hypochlorite 65% Available Chlorin 400000074-FsmDR Lot No: 08CH334D		2.0000/E	180.0000 /E	360.00	
2.00	660.0 lb Poly Drum	Ferric Sulfate 60% Solution NSF (12% Iron) 400000181-55U Mfg No: CB920879 Lot No: GATX27988		1.320.0000/lb	0.2925 /lb	386.10	

Packaging: 55U, Deposit: 2 container(s) at 40.00 USD per container = 80.00 USD

Container Deposit
 Fuel Surcharge

80.00
 30.00

pd. 6-9-09 Reg. #1836

Total Amount Due:

856.10

Remit To:
 GS Robins and Co
 Dept Number 26543
 PO Box 790100
 St Louis MO 63179-0100

126 Chouteau Avenue, St. Louis MO 63102
 2241 East Bennett, Springfield MO 65804
 2214 Fares Avenue, Evansville IN 47711
 www.gsrobins.com



2627 Route 121 NW, Decatur IL 62864
 3000 Ellington Road, Quincy IL 62301
 2955 Chrysler Rd, Kansas City KS 66115

314-621-5155 FAX 314-621-1216

Customer Number

3269-00



INVOICE

Date	Invoice #
04/14/2009	154094
Date Shipped	Order #
04/14/2009	142929

S City of Rockaway Beach
 O PO Box 315
 L Rockaway Beach, MO 65740-
 D USA

T
O

S City of Rockaway Beach
 H 2762 Hwy 176
 I Rockaway Beach, MO 65740-
 P USA

T
O

Handwritten:
 Paid 4-20-09
 PO 5-12-09
 #1821 Reg.

Customer PO #		FOB Remark		Freight Terms		
		Ship Point		Prepaid and Charge		
Terms		Due Date	Ship Via	Sales ID	Division	
Net 30 Days		05/14/2009	ADM	sdh	5	
Units	Package	Product Name		Total Quantity	Unit Price	Amount
1.00	660.0 lb Poly Drum	Ferric Sulfate 60% Solution NSF (12% Iron) 400000181-55U Mfg No: CB920879 Lot No: GATX27988		660.0000/lb	0.2925 /lb	193.05

Packaging: 55U, Deposit: 1 container(s) at 40.00 USD per container = 40.00 USD

3.00	660.0 lb Poly Drum	Ferric Sulfate 60% Solution NSF (12% Iron) 400000181-55U Mfg No: C1819731 Lot No: GATX61348		1,980.0000/lb	0.2925 /lb	579.15
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Packaging: 55U, Deposit: 3 container(s) at 40.00 USD per container = 120.00 USD

Freight
 Container Deposit

167.87
 160.00

Total Amount Due:

1,100.07

Remit To:
 GS Robins and Co
 Dept Number 26543
 PO Box 790100
 St Louis MO 63179-0100

126 Chouteau Avenue, St. Louis MO 63102
 2241 East Bennett, Springfield MO 65804
 2214 Fares Avenue, Evansville IN 47711
 www.gsrobins.com



2627 Route 121 NW, Decatur IL 62864
 3000 Ellington Road, Quincy IL 62301
 2955 Chrysler Rd, Kansas City KS 66115

314-621-5155 FAX 314-621-1216

Customer Number

3269-00



*Rec'd.
3-27-09*



INVOICE

Date	Invoice #
03/09/2009	151798
Date Shipped	Order #
03/09/2009	140385

S City of Rockaway Beach
 O PO Box 315
 L Rockaway Beach, MO 65740-
 D USA

S City of Rockaway Beach
 H 2762 Hwy 176
 I Rockaway Beach, MO 65740-
 P USA

T
O

Customer PO #		FOB Remark		Freight Terms		
		Destination		Prepaid and Allowed		
Terms		Due Date		Ship Via	Sales ID	Division
Net 30 Days		04/08/2009		ADM	sdh	5
Units	Package	Product Name		Total Quantity	Unit Price	Amount
4.00	594.0 lb Poly Drum	Ferric Chloride 36% 400000174-55U Lot No: CC921161		2.376.0000/lb	0.3050 /lb	724.68

Packaging: 55U, Deposit: 4 container(s) at 40.00 USD per container = 160.00 USD

Container Deposit
 Fuel Surcharge

160.00
 30.00

*pd.
4-14-09
#1811 Rec'd.*

Total Amount Due:

914.68

Remit To:
 GS Robins and Co
 Dept Number 26543
 PO Box 790100
 St Louis MO 63179-0100

126 Chouteau Avenue, St. Louis MO 63102
 2241 East Bennett, Springfield MO 65804
 www.gsrobins.com



2627 Route 121 NW, Decatur IL 62864
 3000 Ellington Road, Quincy IL 62301
 2955 Chrysler Rd, Kansas City KS 66115

314-621-5155 FAX 314-621-1216

Customer Number
 3269-00



*Rec'd
 3-11-09*



INVOICE

Date	Invoice #
02/18/2009	150467
Date Shipped	Order #
02/18/2009	138740

S City of Rockaway Beach
 O PO Box 315
 L Rockaway Beach , MO 65740-
 D USA
 T
 O

S City of Rockaway Beach
 H 2762 Hwy 176
 I Rockaway Beach , MO 65740-
 P USA
 T
 O

Customer PO #		FOB Remark		Freight Terms		
		Destination		Prepaid and Allowed		
Terms		Due Date	Ship Via	Sales ID	Division	
Net 30 Days		03/20/2009	GSR Trk	sdh	5	
Units	Package	Product Name		Total Quantity	Unit Price	Amount
4.00	594.0 lb Poly Drum	Ferric Chloride 36% Drinking Water Grade 400000174-55U Mfg No: CB920946 Lot No: CB920946		2.376.0000/lb	0.3050 /lb	724.68

Packaging: 55U, Deposit: 4 container(s) at 40.00 USD per container = 160.00 USD

Container Deposit
 Fuel Surcharge

160.00
 30.00

*Rec'd.
 3-10-09
 #1805 Reg.*

Total Amount Due: 914.68

Remit To:
 GS Robins and Co
 Dept Number 26543
 PO Box 790100
 St Louis MO 63179-0100

24, 55 gal. barrels purchased between Jan and

Aug 1 2009 (7 mos) $24 \text{ Barrels} \times 55 \text{ gal/barrel} = 1320 \text{ gallons}$

$1320 \text{ gal} / 6 \text{ gal per day} = 220 \text{ days of reagent}$

$7 \text{ months} \times 30 \text{ days per month} = 210 \text{ days of operation}$

Attachment 6
STATE OF MISSOURI

DEPARTMENT OF NATURAL RESOURCES

MISSOURI CLEAN WATER COMMISSION



MISSOURI STATE OPERATING PERMIT

In compliance with the Missouri Clean Water Law, (Chapter 644 R.S. Mo. as amended, hereinafter, the Law), and the Federal Water Pollution Control Act (Public Law 92-500, 92nd Congress) as amended,

Permit No. MO-0108162

Owner: City of Rockaway Beach
Address: P.O. Box 315, Rockaway Beach, MO 65740

Continuing Authority: Same as above
Address: Same as above

Facility Name: Rockaway Beach WWTF
Facility Address: 1000 Boys Camp Road, Rockaway Beach, MO 65740

Legal Description: SE ¼, SE ¼, Sec. 11, T23N, R21W, Taney County
Receiving Stream: Lake Taneycomo (L2) 303(d)
First Classified Stream and ID: Lake Taneycomo (L2) (07314) 303(d)
USGS Basin & Sub-watershed No.: (11010003-010006)

is authorized to discharge from the facility described herein, in accordance with the effluent limitations and monitoring requirements as set forth herein:

FACILITY DESCRIPTION

Outfall #001 - POTW - SIC #4952

Two train deep oxidation ditch / center clarifiers / ultraviolet disinfection / phosphorus reduction / sludge is land applied

Design organic population equivalent is 6,000.
Design average daily flow is 0.6 MGD.
Design sludge production is 128 dry tons/year.

This permit authorizes only wastewater discharges under the Missouri Clean Water Law and the National Pollutant Discharge Elimination System; it does not apply to other regulated areas. This permit may be appealed in accordance with Section 644.051.6 of the Law.

August 30, 2006
Effective Date

April 23, 2007
(Revised)

A handwritten signature in dark ink, appearing to read "Doyle Childer".

Doyle Childer, Director, Department of Natural Resources
Executive Secretary, Clean Water Commission

August 29, 2011
Expiration Date
MO 780-0041 (10-93)

Cynthia S. Davies, Regional Director, Southwest Regional Office

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS					PAGE NUMBER 2 of 7	
					PERMIT NUMBER MO-0108162	
The permittee is authorized to discharge from outfall(s) with serial number(s) as specified in the application for this permit. The interim effluent limitations shall become effective upon issuance and remain in effect until August 31, 2009 . Such discharges shall be controlled, limited and monitored by the permittee as specified below:						
OUTFALL NUMBER AND EFFLUENT PARAMETER(S)	UNITS	INTERIM EFFLUENT LIMITATIONS			MONITORING REQUIREMENTS	
		DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
<u>Outfall #001</u> Ammonia as N	mg/L	*		*	once/month	grab
MONITORING REPORTS SHALL BE SUBMITTED <u>MONTHLY</u> ; THE FIRST REPORT IS DUE <u>MAY 28, 2007</u> .						
The permittee is authorized to discharge from outfall(s) with serial number(s) as specified in the application for this permit. The final effluent limitations shall become effective September 1, 2009 and remain in effect until expiration of the permit. Such discharges shall be controlled, limited and monitored by the permittee as specified below:						
OUTFALL NUMBER AND EFFLUENT PARAMETER(S)	UNITS	FINAL EFFLUENT LIMITATIONS			MONITORING REQUIREMENTS	
		DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
<u>Outfall #001</u> Ammonia as N (May 1 – Oct 31) (Nov 1 – April 30)	mg/L	12.1 12.1		6.0 6.0	once/month	grab
MONITORING REPORTS SHALL BE SUBMITTED <u>MONTHLY</u> ; THE FIRST REPORT IS DUE <u>OCTOBER 28, 2009</u> .						
The permittee is authorized to discharge from outfall(s) with serial number(s) as specified in the application for this permit. The final effluent limitations shall become effective upon issuance and remain in effect until expiration of the permit. Such discharges shall be controlled, limited and monitored by the permittee as specified below:						
OUTFALL NUMBER AND EFFLUENT PARAMETER(S)	UNITS	FINAL EFFLUENT LIMITATIONS			MONITORING REQUIREMENTS	
		DAILY MAXIMUM	WEEKLY AVERAGE	MONTHLY AVERAGE	MEASUREMENT FREQUENCY	SAMPLE TYPE
<u>Outfall #001</u> Flow	GPD	*		*	once/month	24 hr. total
Biochemical Oxygen Demand ₅ **	mg/L		30	20	once/month	24 hr. composite
Total Suspended Solids**	mg/L		30	20	once/month	24 hr. composite
pH – Units	SU	***		***	once/month	grab
Fecal Coliform (Note 1)	#/100 ml	1000		400 (Note 2)	once/month	grab
Total Phosphorus as P	mg/L			0.5	once/month	grab
Oil & Grease	mg/L	15		10	once/month	grab
MONITORING REPORTS SHALL BE SUBMITTED <u>MONTHLY</u> ; THE FIRST REPORT IS DUE <u>MAY 28, 2007</u> . THERE SHALL BE NO DISCHARGE OF FLOATING SOLIDS OR VISIBLE FOAM IN OTHER THAN TRACE AMOUNTS.						
B. STANDARD CONDITIONS						
IN ADDITION TO SPECIFIED CONDITIONS STATED HEREIN, THIS PERMIT IS SUBJECT TO THE ATTACHED <u>Parts I, II & III</u> STANDARD CONDITIONS DATED <u>October 1, 1980 and August 15, 1994</u> , AND HEREBY INCORPORATED AS THOUGH FULLY SET FORTH HEREIN.						

A. EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS (continued)

- * Monitoring requirement only.
- ** This facility is required to provide a 30-day average percent removal of at least 85%.
- *** pH is measured in pH units and is not to be averaged. The pH for all facilities except lagoons is limited to the range of 6.0-9.0 pH units.

Note 1 - Final limitations and monitoring requirements for Fecal Coliform are applicable only during the recreational season from April 1 through October 31.

Note 2 - Monthly average limit for Fecal Coliform is expressed as a geometric mean. Geometric mean for
 $n \text{ samples} = [a_1 \times a_2 \times a_3 \dots \times a_n]^{1/n}$

C. SPECIAL CONDITIONS

1. This permit may be reopened and modified, or alternatively revoked and reissued, to:
 - (a) Comply with any applicable effluent standard or limitation issued or approved under Sections 301(b)(2)(C) and (D), 304(b)(2), and 307(a) (2) of the Clean Water Act, if the effluent standard or limitation so issued or approved:
 - (1) contains different conditions or is otherwise more stringent than any effluent limitation in the permit; or
 - (2) controls any pollutant not limited in the permit.
 - (b) Incorporate new or modified effluent limitations or other conditions, if the result of a waste load allocation study, toxicity test or other information indicates changes are necessary to assure compliance with Missouri's Water Quality Standards.
 - (c) Incorporate new or modified effluent limitations or other conditions if, as the result of a watershed analysis, a Total Maximum Daily Load (TMDL) limitation is developed for the receiving waters which are currently included in Missouri's list of waters of the state not fully achieving the state's water quality standards, also called the 303(d) list.

The permit as modified or reissued under this paragraph shall also contain any other requirements of the Clean Water Act then applicable.

2. All outfalls must be clearly marked in the field.
3. Permittee will cease discharge by connection to areawide wastewater treatment system within 90 days of notice of its availability.
4. Changes in Discharges of Toxic Substances

The permittee shall notify the Director as soon as it knows or has reason to believe:

- (a) That any activity has occurred or will occur which would result in the discharge of any toxic pollutant which is not limited in the permit, if that discharge will exceed the highest of the following "notification levels:"
 - (1) One hundred micrograms per liter (100 µg/L);
 - (2) Two hundred micrograms per liter (200 µg/L) for acrolein and acrylonitrile; five hundred micrograms per liter (500 µg/L) for 2,5 dinitrophenol and for 2-methyl-4, 6-dinitrophenol; and one milligram per liter (1 mg/L) for antimony;
 - (3) Five (5) times the maximum concentration value reported for the pollutant in the permit application;
 - (4) The level established in Part A of the permit by the Director.
- (b) That they have begun or expect to begin to use or manufacture as an intermediate or final product or byproduct any toxic pollutant, which was not reported in the permit application.

C. SPECIAL CONDITIONS (continued)

5. Report as no-discharge when a discharge does not occur during the report period.
6. Water Quality Standards
 - (a) Discharges to waters of the state shall not cause a violation of water quality standards rule under 10 CSR 20-7.031, including both specific and general criteria.
 - (b) General Criteria. The following general water quality criteria shall be applicable to all waters of the state at all times including mixing zones. No water contaminant, by itself or in combination with other substances, shall prevent the waters of the state from meeting the following conditions:
 - (1) Waters shall be free from substances in sufficient amounts to cause the formation of putrescent, unsightly or harmful bottom deposits or prevent full maintenance of beneficial uses;
 - (2) Waters shall be free from oil, scum and floating debris in sufficient amounts to be unsightly or prevent full maintenance of beneficial uses;
 - (3) Waters shall be free from substances in sufficient amounts to cause unsightly color or turbidity, offensive odor or prevent full maintenance of beneficial uses;
 - (4) Waters shall be free from substances or conditions in sufficient amounts to result in toxicity to human, animal or aquatic life;
 - (5) There shall be no significant human health hazard from incidental contact with the water;
 - (6) There shall be no acute toxicity to livestock or wildlife watering;
 - (7) Waters shall be free from physical, chemical or hydrologic changes that would impair the natural biological community;
 - (8) Waters shall be free from used tires, car bodies, appliances, demolition debris, used vehicles or equipment and solid waste as defined in Missouri's Solid Waste Law, section 260.200, RSMo, except as the use of such materials is specifically permitted pursuant to section 260.200-260.247.
7. Sludge and Biosolids Use For Domestic Wastewater Treatment Facilities
 - (a) Permittee shall comply with the pollutant limitations, monitoring, reporting, and other requirements in accordance with the attached permit Standard Conditions.
 - (b) If sludge is not removed by a contract hauler, permittee is authorized to land apply biosolids. Permit Standard Conditions, Part III shall apply to the land application of biosolids. Permittee shall notify the department at least 180 days prior to the planned removal of biosolids. The department may require submittal of a biosolids management plan for department review and approval as determined appropriate on a case-by-case basis.
8. The permittee shall submit a report semi-annually in April and October with the Discharge and Monitoring reports which address measures taken to locate and eliminate sources of infiltration and inflow into the City's collection system.
9. Whole Effluent Toxicity (WET) tests shall be conducted as follows:

SUMMARY OF WET TESTING FOR THIS PERMIT				
OUTFALL	A.E.C. %	FREQUENCY	SAMPLE TYPE	MONTH
001	100	once/year	24 hr. composite	August

C. SPECIAL CONDITIONS (continued)

(a) Test Schedule and Follow-Up Requirements

- (1) Perform a SINGLE-dilution test in the months and at the frequency specified above. For tests which are successfully passed, submit test results USING THE DEPARTMENT'S WET TEST REPORT FORM #MO-780-1899 along with complete copies of the test reports as received from the laboratory, including copies of chain-of-custody forms within 30 calendar days of availability to the WATER PROTECTION PROGRAM, P.O. Box 176, Jefferson City, MO 65102. If the effluent passes the test, do not repeat the test until the next test period.
 - (a) For discharges of stormwater, samples shall be collected within three hours from when discharge first occurs.
 - (b) Samples submitted for analysis of stormwater discharges shall be collected as a grab.
 - (c) For discharges of non-stormwater, samples shall be collected only when precipitation has not occurred for a period of forty-eight hours prior to sample collection. In no event shall sample collection occur simultaneously with the occurrence of precipitation excepting for stormwater samples.
 - (d) A twenty-four hour composite sample shall be submitted for analysis of non-stormwater discharges.
 - (e) Upstream receiving water samples, where required, shall be collected upstream from any influence of the effluent where downstream flow is clearly evident.
 - (f) Samples submitted for analysis of upstream receiving water may be collected as either a grab or twenty-four-hour composite as appropriate to the nature of the discharge.
 - (g) Chemical and physical analysis of the upstream control and effluent sample shall occur immediately upon being received by the laboratory, prior to any manipulation of the effluent sample beyond preservation methods consistent with federal guidelines for WET testing that are required to stabilize the sample during shipping.
 - (h) Any and all chemical or physical analysis of the effluent sample performed in conjunction with the WET test shall be performed at the 100% Effluent concentration in addition to analyses performed upon any other effluent concentration.
 - (i) All chemical analyses included in the Missouri Department of Natural Resources WET test report form #MO-780-1899 shall be performed and results shall be recorded in the appropriate field of the report form.
 - (j) Where flow-weighted composite sample is required for analysis, the samples shall be composited at the laboratory where the test is to be performed.
 - (k) Where in stream testing is required downstream from the discharge, sample collection shall occur immediately below the established Zone of Initial Dilution in conjunction with or immediately following a release or discharge.
 - (l) Samples submitted for analysis of downstream receiving water may be collected as either a grab or twenty-four-hour composite as appropriate to the nature of the discharge.
 - (m) All instream samples, including downstream samples, shall be tested for toxicity at the 100% concentration in addition to any other assigned AEC for in-stream samples.
- (2) All failing test results along with complete copies of the test reports as received from the laboratory, INCLUDING THOSE TESTS CONDUCTED UNDER CONDITION (3) BELOW, shall be reported to the WATER PROTECTION PROGRAM, P.O. Box 176, Jefferson City, MO 65102 within 14 calendar days of the availability of the results.
- (3) If the effluent fails the test, a multiple dilution test shall be performed within 30 calendar days and biweekly thereafter, until one of the following conditions are met:
 - (a) THREE CONSECUTIVE MULTIPLE-DILUTION TESTS PASS. No further tests need to be performed until next regularly scheduled test period.
 - (b) A TOTAL OF THREE MULTIPLE-DILUTION TESTS FAIL.
- (4) Failure of at least two multiple-dilution tests during any period of accelerated monitoring violates the permit narrative requirement for aquatic life protection.
- (5) The permittee shall submit a concise summary of all test results for the test series to the WATER PROTECTION PROGRAM, P.O. Box 176, Jefferson City, MO 65102 within 14 calendar days of the third failed test.
- (6) Additionally, the following shall apply upon failure of the third MULTIPLE DILUTION test: A toxicity identification evaluation (TIE) or toxicity reduction evaluation (TRE) is automatically triggered. The permittee shall contact THE WATER PROTECTION PROGRAM within 14 calendar days from availability of the test results to ascertain as to whether a TIE or TRE is appropriate. The permittee shall submit a plan for conducting a TIE or TRE to the WATER PROTECTION PROGRAM within 60 calendar days of the date of DNR's direction to perform either a TIE or TRE. This plan must be approved by DNR before the TIE or TRE is begun. A schedule for completing the TIE or TRE shall be established in the plan approval.
- (7) Upon DNR's approval, the TIE/TRE schedule may be modified if toxicity is intermittent during the TIE/TRE investigations. A revised WET test schedule may be established by DNR for this period.

C. SPECIAL CONDITIONS (continued)

- (8) If a previously completed TIE has clearly identified the cause of toxicity, additional TIEs will not be required as long as effluent characteristics remain essentially unchanged and the permittee is proceeding according to a DNR approved schedule to complete a TRE and reduce toxicity. Regularly scheduled WET testing as required in the permit, without the follow-up requirements, will be required during this period.
 - (9) When WET test sampling is required to run over one DMR period, each DMR report shall contain a copy of the Department's WET test report form that was generated during the reporting period.
 - (10) Submit a concise summary in tabular format of all test results with the annual report.
- (b) PASS/FAIL procedure and effluent limitations:
- (1) To pass a single-dilution test, mortality observed in the AEC test concentration shall not be significantly different (at the 95% confidence level; $p = 0.05$) than that observed in the upstream receiving-water control sample. Where upstream receiving water is not available mortality observed in the AEC test concentration shall not be significantly different (at the 95% confidence level; $p = 0.05$) than that observed in the laboratory control. The appropriate statistical tests of significance shall be consistent with the most current edition of METHODS FOR MEASURING THE ACUTE TOXICITY OF EFFLUENTS AND RECEIVING WATERS TO FRESHWATER AND MARINE ORGANISMS or other Federal guidelines as appropriate or required.
 - (2) To pass a multiple-dilution test:
 - (a) For facilities with a computed percent effluent at the edge of the zone of initial dilution, Allowable Effluent Concentration (AEC), OF 30% OR LESS THE AEC must be less than three-tenths (0.3) of the LC_{50} concentration for the most sensitive of the test organisms; **OR**,
 - (b) For facilities with an AEC greater than 30% the LC_{50} concentration must be greater than 100%; **AND**,
 - (c) all effluent concentrations equal to or less than the AEC must be nontoxic. Mortality observed in all effluent concentrations equal to or less than the AEC shall not be significantly different (at the 95% confidence level; $p = 0.05$) than that observed in the upstream receiving-water control sample. Where upstream receiving water is not available mortality observed in the AEC test concentration shall not be significantly different (at the 95% confidence level; $p = 0.05$) than that observed in the laboratory control. The appropriate statistical tests of significance shall be consistent with the most current edition of METHODS FOR MEASURING THE ACUTE TOXICITY OF EFFLUENTS AND RECEIVING WATERS TO FRESHWATER AND MARINE ORGANISMS or other federal guidelines as appropriate or required. Failure of one multiple-dilution test may be considered an effluent limit violation.
- (c) Test Conditions
- (1) Test Type: Acute Static non-renewal
 - (2) Test species: Ceriodaphnia dubia and Pimephales promelas (fathead minnow). Organisms used in WET testing shall come from cultures reared for the purpose of conducting toxicity tests and cultured in a manner consistent with the most current USEPA guidelines. All test animals shall be cultured as described in the most current edition of METHODS FOR MEASURING THE ACUTE TOXICITY OF EFFLUENTS AND RECEIVING WATERS TO FRESHWATER AND MARINE ORGANISMS.
 - (3) Test period: 48 hours at the "Acceptable Effluent Concentration" (AEC) specified above.
 - (4) When dilutions are required, upstream receiving stream water shall be used as dilution water. If upstream water is unavailable or if mortality in the upstream water exceeds 10%, "reconstituted" water will be used as dilution water. Procedures for generating reconstituted water will be supplied by the MDNR upon request.
 - (5) Single-dilution tests will be run with:
 - (a) Effluent at the AEC concentration;
 - (b) 100% receiving-stream water (if available), collected upstream of the outfall at a point beyond any influence of the effluent; and
 - (c) reconstituted water.
 - (6) Multiple-dilution tests will be run with:
 - (a) 100%, 50%, 25%, 12.5%, and 6.25% effluent, unless the AEC is less than 25% effluent, in which case dilutions will be 4 times the AEC, two times the AEC, AEC, 1/2 AEC and 1/4 AEC;
 - (b) 100% receiving-stream water (if available), collected upstream of the outfall at a point beyond any influence of the effluent; and
 - (c) reconstituted water.
 - (7) If reconstituted-water control mortality for a test species exceeds 10%, the entire test will be rerun.
 - (8) If upstream control mortality exceeds 10%, the entire test will be rerun using reconstituted water as the dilutant.

SUMMARY OF TEST METHODOLOGY FOR WHOLE-EFFLUENT TOXICITY TESTS

Whole-effluent-toxicity test required in NPDES permits shall use the following test conditions when performing single or multiple dilution methods. Any future changes in methodology will be supplied to the permittee by the Missouri Department of Natural Resources (MDNR). Unless more stringent methods are specified by the DNR, the procedures shall be consistent with the most current edition of Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms.

Test conditions for Ceriodaphnia dubia:

Test duration:	48 h
Temperature:	25 ± 1°C Temperatures shall not deviate by more than 3°C during the test.
Light Quality:	Ambient laboratory illumination
Photoperiod:	16 h light, 8 h dark
Size of test vessel:	30 mL (minimum)
Volume of test solution:	15 mL (minimum)
Age of test organisms:	<24 h old
No. of animals/test vessel:	5
No. of replicates/concentration:	4
No. of organisms/concentration:	20 (minimum)
Feeding regime:	None (feed prior to test)
Aeration:	None
Dilution water:	Upstream receiving water; if no upstream flow, synthetic water modified to reflect effluent hardness.
Endpoint:	Pass/Fail (Statistically significant Mortality when compared to upstream receiving water control or synthetic control if upstream water was not available at $p \leq 0.05$)
Test acceptability criterion:	90% or greater survival in controls

Test conditions for Pimephales promelas:

Test duration:	48 h
Temperature:	25 ± 1°C Temperatures shall not deviate by more than 3°C during the test.
Light Quality:	Ambient laboratory illumination
Photoperiod:	16 h light/ 8 h dark
Size of test vessel:	250 mL (minimum)
Volume of test solution:	200 mL (minimum)
Age of test organisms:	1-14 days (all same age)
No. of animals/test vessel:	10
No. of replicates/concentration:	4 (minimum) single dilution method 2 (minimum) multiple dilution method
No. of organisms/concentration:	40 (minimum) single dilution method 20 (minimum) multiple dilution method
Feeding regime:	None (feed prior to test)
Aeration:	None, unless DO concentration falls below 4.0 mg/L; rate should not exceed 100 bubbles/min.
Dilution water:	Upstream receiving water; if no upstream flow, synthetic water modified to reflect effluent hardness.
Endpoint:	Pass/Fail (Statistically significant Mortality when compared to upstream receiving water control or synthetic control if upstream water was not available at $p \leq 0.05$)
Test Acceptability criterion:	90% or greater survival in controls

